

## **Changing Landscapes of Rural America**

September 22-24, 2000  
Yellowstone National Park, WY

### **Background and Objectives:**

Rural areas in the United States are changing as the country transitions to a service and information economy. The size and character of the populations of rural areas are changing rapidly, as are their livelihoods. These socioeconomic trends are dramatically altering patterns of land use and land cover, with important consequences for ecosystems and human communities. To understand the causes and consequences of these changes, a multidisciplinary approach is needed to involve social scientists, ecologists, geospatial technology specialists, and land managers. Objectives of the conference were:

- 1. Synthesize the current state of knowledge on the trends, causes, consequences, and management approaches of land use change in rural America.**
- 2. Identify new research, tools, and approaches that would help policy-makers better meet their objectives for rural landscapes.**
- 3. Develop a network of scientists and policy-makers focusing on land use change in rural American landscapes.**

**Organizers:** Andrew Hansen (Montana State University), and Daniel Brown (University of Michigan)

**Participants:** Twenty invited scientists and managers, and forty-seven attendees representing policy-makers, nongovernmental organizations, and local citizens.

### **Agenda:**

#### **I. Introduction**

Andy Hansen (Montana State Univ) - Welcome

Daniel Brown (Univ of Michigan) - Land use, ecology, and society: the current frontier

#### **II. Land Use Trends, Rates and Conceptual Underpinnings** (Moderator - Lisa Graumlich, Montana State Univ)

Kenneth Johnson (Loyola Univ. Chicago)- Past pop growth, migration to rural areas.

Rick Knight (Colorado State Univ) – Exurban Development and Recreation

Steve Archer (Texas AM) – Woody plant encroachment

Michael Huston (Oak Ridge National Lab) - The environmental basis of human society

Ray Rasker (Sonoran Institute) - Drivers of change in the New West

Robert Walker (Michigan State Univ)- Social and economic systems and land use change  
Discussion Groups

#### **III. Ecological and Socioeconomic Causes and Consequences: Case Studies** (Moderator - Jay Rotella, Montana State Univ)

Andy Hansen (Montana State Univ) - Greater Yellowstone

David Theobald (Colorado State Univ) - Colorado Rockies

Dennis Ojima (Colorado State Univ) - Integration of Land Use and Climate Change in the Great Plains

Daniel Brown (Univ. Michigan) - Upper Midwest

Tom Evans (Indiana State Univ)- Midwest

David Wear (USDA Forest Service) - Land Use in the Southern Appalachians: Modeling and Forecast Evaluation

Garik Gutman (NASA) - NASA Land Cover Land Use Change Program

Greg Keiller (Montana State University) - Humorist

Discussion Groups

#### **IV. Decision Support and Management (Moderator-Richard Jachowski, USGS)**

Warren Cohen (USFS PNW Research Station)– remote sensing based monitoring efforts

Tom Spies (USFS PNW Research Station) - Modeling alternative

forest management policies in the Oregon Coast Range

Will Orr (Prescott Collge) - Simulation of policy, hydrologic, and land use interactions

Bruce Maxwell (Montana State Univ) - Simulating land use change in an agricultural landscape

Virginia Dale (Oak Ridge National Lab) - Ecological guidelines for land use management

Joan Nassauer (U Mich) - Alternative future scenarios for Corn Belt landscapes: Plausible policy choices

John Varley (Yellowstone National Park) - Managing nature reserves in the context of surrounding private lands

#### **V. Synthesis and Conclusions (Moderator - Dan Brown)**

Discussion Group Summaries

Andy Hansen - Rural land use: Next steps for science and management.

#### **Summary Points:**

Working groups prepared synthesis narratives on: land use trends and conceptual underpinnings; ecological and socioeconomic causes and consequences; and decision support and management.

Key conclusions are listed below.

- Unprecedented in-migration is occurring in rural areas.
- Biophysical and environmental factors influence both traditional extractive natural resource land use and more recent natural amenity-based land use.
- Rural migration is driven by fundamental changes in society, economics, and technology.
- Rural expansion is strongly influencing socioeconomic and ecosystems in rural areas.
- Decision makers are caught between new realities but with old cultural values, laws, infrastructure.
- Based on history, we would predict the new rural trends can be even more unsustainable than the old rural system.
- Challenge to scientists is to provide decision-makers with knowledge and tools that can allow them to make informed decisions.

Research and Management Needs

- Empirical studies are few and more are needed.
- The theoretical basis of rural development is underdeveloped.
- Decision-support tools are improving and more work is needed.
- Decision-makers have little access to research or decision-support tools.
- Public agencies are unprepared to deal with private lands.
- Integration of disciplines is critical.

- NASA LCLUC program has contributed substantially to addressing these needs.

**Products:**

1. Workshop proceedings were published on the internet.

<http://www.homepage.montana.edu/~hansen/hansen/lab/documents/conference.htm>

2. A collection of papers is being prepared for Ecological Applications.

3. A follow-up conference is scheduled for the annual Ecological Society of America meeting in August 2002.

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